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MORBIDITY AND MORTALITY WEEKLY REPORT

Chlamydia trachomatis Genital Infections — United States, 1995

Genital tract infections with *Chlamydia trachomatis* are a major cause of pelvic inflammatory disease (PID), ectopic pregnancy, and infertility among women, and perinatal transmission of *C. trachomatis* to infants can cause neonatal conjunctivitis and pneumonia. In 1994, the estimated cost of untreated chlamydial infections and their complications was $2 billion in the United States (*1*). To determine the number of reported cases of infection and to assess the impact of screening and treatment programs on chlamydial infection in 1995, CDC analyzed notifiable disease surveillance data on chlamydia and data on chlamydia test positivity among women screened in family-planning clinics funded through CDC and the Office of Population Affairs as a result of the Preventive Health Amendments of 1992* (*2*). This report summarizes the findings of the analysis, which indicate that, although the number of reported cases of chlamydial infection among women continued to increase concomitantly with the expansion of screening programs and improved reporting, the prevalence of chlamydial infections declined among women attending Title X family-planning clinics in areas that implemented screening and treatment programs.

In 1995, all states (except Alaska) and the District of Columbia reported cases of chlamydial infection to CDC. Sixteen states (Hawaii, Idaho, Mississippi, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, Oklahoma, South Dakota, Tennessee, Utah, Virginia, Washington, Wisconsin, and Wyoming) provided anonymous line-listed data to CDC for 70,101 cases of chlamydial infection among women, including 68,344 with age data. Chlamydia screening and prevalence-monitoring activities were initiated in Public Health Service (PHS) Region X in 1988 as a CDC-supported demonstration project. In 1993, chlamydia screening services for women were initiated in three additional PHS regions (III, VII, and VIII) and, in 1995, in the remaining PHS regions (I, II, IV, V, VI, and IX)†. In some regions, federally funded chlamydia screening

*Legislation to prevent sexually transmitted disease-related infertility. Public Health Service Act Section 318A(o)(1)[42 USC 247c-1(o)(1), as amended].

†*Region I*=Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Region II*=New Jersey, New York, Puerto Rico, and U.S. Virgin Islands; *Region III*=Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia; *Region IV*=Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee; *Region V*=Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin; *Region VI*=Arkansas, Louisiana, New Mexico, Oklahoma, and Texas; *Region VII*=Iowa, Kansas, Missouri, and Nebraska; *Region VIII*=Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming; *Region IX*=Arizona, California, Hawaii, and Nevada; and *Region X*=Alaska, Idaho, Oregon, and Washington.

Chlamydia trachomatis — *Continued*

supplements local- and state-funded screening programs. Data about trends in chlamydia test positivity (number of positive tests divided by number of adequate tests performed) were available for Region X (approximately 70,000 tests per year) for 1988–1995 and for Region III (approximately 100,000 tests per year) and Region VIII (approximately 50,000 tests per year) for 1994–June 1996.

In 1995, a total of 477,638 cases of chlamydial infection were reported to CDC, representing a rate of 182.2 cases per 100,000 population. State-specific rates for women ranged from 46.4 to 622.0 per 100,000 (Table 1); rates were highest in western and midwestern states[§]. The overall reported rate for women (290.3) was nearly six times higher than that for men (52.1). Of the 68,344 cases in women for whom age data were available, 2452 (4%) were aged ≤14 years; 31,511 (46%), aged 15–19 years; 22,540 (33%), aged 20–24 years; and 11,841 (17%), aged ≥25 years.

In 1995, state-specific chlamydia test positivity among women aged 15–24 years who were screened at selected family-planning clinics ranged from 2.8% to 9.4% (Figure 1). During 1988–1995, among women participating in the screening programs in Region X Chlamydia Project family-planning clinics, the annual rate of chlamydia test positivity declined 65% (from 9.3% to 3.3%). Rates declined substantially for all age groups, although they were persistently highest among adolescents (Figure 2). Preliminary data from the Region III Chlamydia Project indicate that from 1994 to January–June 1996, the annual positivity rate among women aged ≤19 years declined 31% (from 7.8% to 5.4%). During this period, the annual positivity rate among women aged ≤19 years declined 16% (from 5.5% to 4.6%) in the Region VIII Chlamydia Project.

Reported by: Div of Sexually Transmitted Disease Prevention, National Center for HIV, STD, and TB Prevention, CDC.

Editorial Note: In the United States, chlamydial infection is the most common infectious disease notification to state health departments and CDC (*3*). During 1987–1995, the annual reported rate of chlamydial infections increased 281% (from 47.8 to 182.2 cases per 100,000), while the number of states that require reporting of this infection increased from 22 to 48. The findings in this report document the sustained high rates of chlamydial infections among U.S. women through 1995. Reported case rates primarily reflect chlamydial infections identified during screening of asymptomatic women. Screening is an essential component of chlamydia surveillance because, even though infection can cause extensive inflammation and scarring of the genital tract, most infected women have only mild manifestations or are asymptomatic. In states with low rates of screening and treatment, many chlamydial infections may not be identified or treated; consequently, state-specific rates of chlamydial infection may be low even though actual morbidity is high (*4*).

The low reported rate of chlamydial infection among men reflects low rates of testing among this group; most men with cases of chlamydial urethritis are treated for presumptive infection without confirmatory microbiologic testing, often as the result of a Gram-stain diagnosis of nongonococcal urethritis. Increased use of chlamydia testing among men would facilitate partner notification, evaluation, treatment, and

[§] *Northeast*=Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; *Midwest*=Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South*=Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and *West*=Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Chlamydia trachomatis — *Continued*

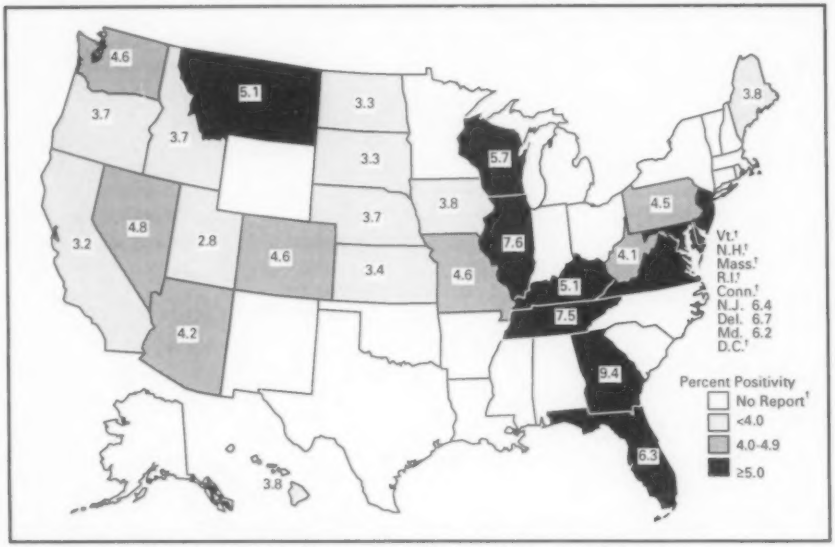
TABLE 1. Number and rate* of reported cases of *Chlamydia trachomatis* infection, by state and sex — United States, 1995†

State	Women		Men	
	Cases	Rate	Cases	Rate
Alabama	2,888	130.6	285	14.0
Alaska	NR§	—	NR	—
Arizona	8,315	390.1	1,746	83.7
Arkansas	596	46.4	79	6.6
California	34,934	221.2	7,343	46.5
Colorado	NA¶	—	NA	—
Connecticut	5,624	333.8	816	51.3
Delaware	2,295	622.0	406	116.6
District of Columbia	1,449	490.7	216	83.4
Florida	18,251	250.1	4,043	58.9
Georgia	10,263	277.5	930	26.5
Hawaii	1,878	319.2	257	42.9
Idaho	1,370	234.7	369	63.7
Illinois	20,443	336.5	4,202	73.0
Indiana	7,564	253.6	1,537	54.5
Iowa	4,210	288.0	879	63.7
Kansas	4,453	341.3	860	68.2
Kentucky	5,995	301.8	909	48.5
Louisiana	7,569	336.5	1,542	73.7
Maine	1,024	160.9	120	19.8
Maryland	7,646	294.8	1,094	44.7
Massachusetts	6,237	197.9	1,165	39.9
Michigan	18,750	382.5	2,916	62.8
Minnesota	4,681	199.8	1,351	59.6
Mississippi	849	60.5	63	4.9
Missouri	10,866	394.8	1,244	48.4
Montana	995	227.1	203	47.0
Nebraska	2,346	280.0	526	65.8
Nevada	2,649	352.9	400	51.3
New Hampshire	725	123.9	173	30.7
New Jersey	3,902	95.2	154	4.0
New Mexico	3,721	435.5	564	67.9
New York	24,600	261.0	2,086	23.9
North Carolina	13,589	367.0	2,191	62.7
North Dakota	1,025	318.8	299	93.5
Ohio	24,883	431.7	4,048	75.1
Oklahoma	4,467	266.0	598	37.4
Oregon	4,145	260.1	1,320	85.3
Pennsylvania	20,290	323.7	2,671	46.0
Rhode Island	1,598	311.0	304	63.9
South Carolina	6,932	366.3	813	45.7
South Dakota	1,039	280.9	274	76.3
Tennessee	10,517	386.9	2,637	103.9
Texas	38,517	405.8	6,110	66.2
Utah	1,316	134.2	360	37.1
Vermont	408	137.0	54	18.8
Virginia	11,253	334.2	989	30.4
Washington	7,508	274.5	1,954	72.5
West Virginia	1,961	207.2	359	40.7
Wisconsin	6,860	262.8	2,095	83.4
Wyoming	560	234.0	143	59.4
Total	**383,956**	**290.3**	**65,697**	**52.1**

* Per 100,000 population.
† Persons for whom sex was unknown were excluded from this analysis.
§ Not reported.
¶ Not available by sex.

Chlamydia trachomatis — *Continued*

FIGURE 1. Percentage of chlamydia test positivity* among women aged 15–24 years who were tested in selected family-planning clinics, by state — United States, 1995



*Number of positive tests divided by number of adequate tests performed.
†These states either did not report chlamydia positivity data or reported for <3000 women screened during 1995.

Source: Regional infertility prevention programs, Office of Population Affairs, and local and state sexually transmitted diseases-control programs.

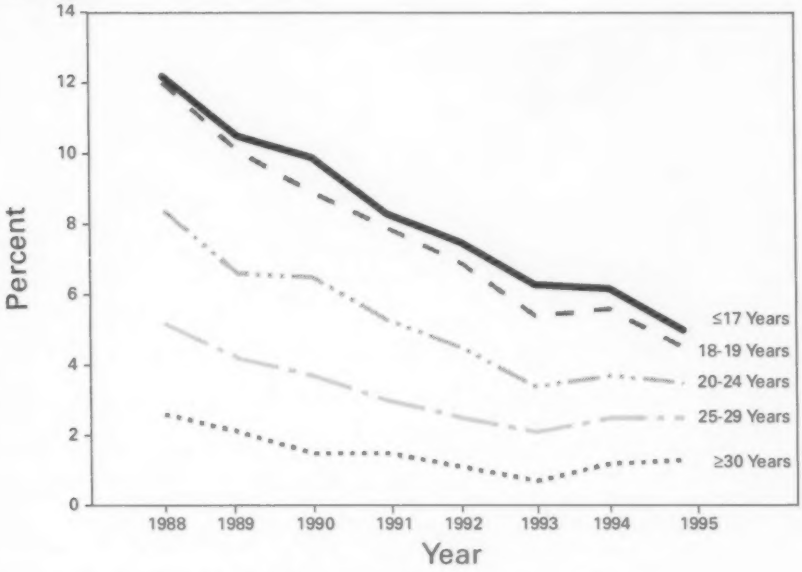
reporting. In addition, approximately half of men with chlamydial infection may be asymptomatic, and screening for chlamydia is limited among men, including those at high risk for infection.

Although notifiable disease surveillance data are an important indicator of morbidity, chlamydia positivity rates among women attending family-planning clinics provide a more accurate measure of disease burden in this population. Based on analysis of data from universally tested clinic populations, comparisons of positivity rates (which may include more than one test for some patients) with prevalence rates (which are based on a single test per patient) indicate that positivity rates frequently underestimate prevalence, but generally by ≤10% (e.g., a positivity rate of 10% may correspond to a prevalence of 11%) (CDC, unpublished data, 1996). Positivity rates can be a useful indicator when prevalence data are not available. Declining positivity rates documented by the regional chlamydia screening projects confirm the effectiveness of screening and treatment of women in reducing the prevalence of infection.

Both the case reports and the positivity data from family-planning clinics emphasize the continuing high burden of chlamydial disease in adolescent and young adult women. Data provided to CDC by the U.S. Department of Labor also documented high prevalences of infection among young women: in 1995, state-specific prevalence of

Chlamydia trachomatis — *Continued*

FIGURE 2. Percentage of chlamydia test positivity* among women tested in family-planning clinics†, by age group and year — Region X Chlamydia Project,§ 1988–1995



*Number of positive tests divided by number of adequate tests performed.
†Women who met screening criteria were tested.
§Alaska, Idaho, Oregon, and Washington.

infection among 16- to 24-year-old female entrants into the U.S. Job Corps (an economically disadvantaged population) ranged from 4.2% to 17.1% (*5*).

In 1993 (the most recent year for which data were available), an estimated 313,000 cases of PID were diagnosed in emergency departments in the United States (National Hospital Ambulatory Medical Care Survey), and 116,000 patients were discharged from the hospital with this diagnosis (National Hospital Discharge Survey) (*5*). Although gonorrhea continues to cause a substantial proportion of PID cases, chlamydial infections also are an important cause of PID. A recent randomized trial of chlamydia screening among patients of a health-maintenance organization indicated that, for asymptomatic women screened and treated for chlamydial infection, the rate of subsequent PID was approximately 50% lower than for women who were not screened (*6*). Expansion of chlamydial screening among women could prevent a substantial proportion of PID cases. In addition, because chlamydial infections enhance transmission of human immunodeficiency virus (HIV) infection, prevention of chlamydial infection can assist in preventing sexual transmission of HIV infection among populations at risk for both diseases (*7*).

Chlamydia trachomatis — *Continued*

In 1993, CDC recommended routine screening for chlamydia in all sexually active females aged <20 years at least annually, and annual screening of women aged ≥20 years with one or more risk factors for this disease (i.e., lack of barrier contraception and new or multiple sex partners during the preceding 3 months) (*8*). As an alternative to risk-based criteria such as these, some public health programs can obtain comparable sensitivity and test a similar proportion of female clinic patients by screening all sexually active women aged <30 years (CDC, unpublished data, 1996). In 1997, a new Health Plan Employer Data Information Set (HEDIS) measure will evaluate use of a quality-assurance criterion for screening of all sexually active women aged <25 years enrolled in managed-care organizations (*9*).

Despite availability since the 1980s of nonculture diagnostic tests for chlamydia, many sexually active women at risk for chlamydial infection in the United States have not been screened annually—in part because they are not offered testing by their public or private health-care provider. Declining test prices and a new generation of DNA-amplification tests that can be performed on urine may facilitate more widespread screening for this infection. Chlamydial infections can be readily and effectively treated, using 1 g azithromycin orally in a single dose or 100 mg doxycyline orally twice daily for 7 days.

Surveillance data on chlamydial infections and other sexually transmitted diseases are published by CDC (*5*) and can be obtained by calling (404) 639-1819. These data also are available on the World-Wide Web (http://wonder.cdc.gov/rchtml/Convert/STD/Title3600.html). Information about management of chlamydial infections and other sexually transmitted diseases is available in the *1993 Sexually Transmitted Diseases Treatment Guidelines* (*10*), which can be obtained by calling the telephone number above and on the World-Wide Web (http://wonder.cdc.gov/rchtml/Convert/STD/Title3301.html).

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Update: Prevalence of Overweight Among Children, Adolescents, and Adults — United States, 1988–1994

Overweight and obese adults are at increased risk for morbidity and mortality associated with many acute and chronic medical conditions, including hypertension, dyslipidemia, coronary heart disease, diabetes mellitus, gallbladder disease, respiratory disease, some types of cancer, gout, and arthritis (*1*). In addition, overweight during childhood and adolescence is associated with overweight during adulthood (*2*), and previous reports have documented an increase in the prevalence of overweight among children, adolescents, and adults from 1976–1980 to 1988–1991 (*3,4*). This report presents data from CDC's Third National Health and Nutrition Examination Survey (NHANES III) (1988–1994) to provide the most recent national estimates of overweight among children (aged 6–11 years), adolescents (aged 12–17 years), and adults (aged ≥20 years)* in the United States. The findings indicate that the prevalence of overweight in the United States has continued to increase.

NHANES III was a stratified, multistage, probability cluster sample representative of the U.S. civilian, noninstitutionalized population. The survey was designed as a 6-year survey, with Phase 1 conducted from 1988 through 1991 and Phase 2 from 1991 through 1994. Estimates are presented from both phases combined because individual phase estimates may be more variable than the 6-year estimates (*5*). Stature and weight were measured as part of a standardized physical examination in a mobile examination center (*6*). Body mass index (BMI, kg/m^2) was used as a mea-sure of weight adjusted for stature. Children and adolescents were categorized as overweight when their BMIs were at or above sex- and age-specific 95th percentile BMI cutoff points calculated at 6-month age intervals, derived respectively from the second and third National Health Examination Surveys (NHES II, 1963–1965, and III, 1966–1970) (*3*). Adults were classified as overweight when BMI was ≥27.8 for men and ≥27.3 for women (85th percentiles from NHANES II for ages 20–29 years) (*4*). A more conservative definition of overweight was used for children and adolescents compared with adults to account for growth spurts and other physiologic changes.

The findings from NHANES III indicate that substantial proportions of children, adolescents, and adults in the United States were overweight (Table 1). Approximately 14% of children and 12% of adolescents were overweight. Among adults, approximately 33% of men and 36% of women were overweight (Table 2). Among women, 34% of non-Hispanic whites, 52% of non-Hispanic blacks, and 50% of Mexican Americans were overweight.† Racial/ethnic group-specific variation among men was less than that among women.

Reported by: Div of Health Examination Statistics, National Center for Health Statistics; Div of Nutrition and Physical Activity, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Previous reports based on NHANES III Phase 1 data indicated that the prevalence of overweight had increased from 1976–1980 to 1988–1991 (from 7.6% to 10.9% for children, 5.7% to 10.8% for adolescents, and 25.4% to 33.3% for adults) and that the prevalence of overweight was higher among blacks than among whites (*3,4*). The findings in this report for NHANES III 6-year estimates indicate generally higher

*Data for 18- and 19-year-olds are not included in estimates for either adolescents or adults to allow for comparison with previously published results (which did not include 18- and 19-year-olds) from NHANES surveys.

†Numbers for other racial/ethnic groups were too small for meaningful analysis.

Prevalence of Overweight — Continued

TABLE 1. Number and percentage of children (aged 6–11 years) and adolescents (aged 12–17 years) who were overweight*, by sex and race/ethnicity† — United States, Third National Health and Nutrition Examination Survey (NHANES III), 1988–1994

	Children			Adolescents§		
Characteristic	**No.**	**(%)**	**(95% CI¶)**	**No.**	**(%)**	**(95% CI)**
Male						
White, non-Hispanic	446	(13.2)	(8.7%–17.6%)	281	(11.6)	(7.6%–15.6%)
Black, non-Hispanic	584	(14.7)	(11.2%–18.3%)	412	(12.5)	(9.2%–15.8%)
Mexican American	565	(18.8)	(14.6%–23.0%)	406	(15.0)	(10.8%–19.1%)
Total	**1673**	**(14.7)**	**(11.5%–17.9%)**	**1154**	**(12.3)**	**(9.3%–15.3%)**
Female						
White, non-Hispanic	428	(11.9)	(7.2%–16.5%)	342	(9.6)	(5.5%–13.6%)
Black, non-Hispanic	538	(17.9)	(14.5%–21.2%)	447	(16.3)	(11.9%–20.8%)
Mexican American	581	(15.8)	(10.3%–21.3%)	412	(14.0)	(6.8%–21.2%)
Total	**1606**	**(12.5)**	**(9.4%–15.7%)**	**1274**	**(10.7)**	**(7.7%–13.7%)**
Total**	**3279**	**(13.7)**	**(11.4%–15.9%)**	**2428**	**(11.5)**	**(9.0%–14.0%)**

*Overweight is defined as body mass index (BMI) (kg/m^2) at or above sex- and age-specific 95th percentile BMI cutoff points calculated at 6-month age intervals, derived respectively from National Health Examination Survey cycles 2 and 3.
†Numbers for other racial/ethnic groups were too small for meaningful analysis.
§Excludes pregnant females and one person with an outlier sample weight.
¶Confidence interval.
**Total estimates include racial/ethnic groups not shown.

TABLE 2. Number and percentage of adults (aged ≥20 years) who were overweight*, by sex and race/ethnicity† — United States, Third National Health and Nutrition Examination Survey (NHANES III), 1988–1994

	No.	**(%)**	**(95% CI§)**
Men			
White, non-Hispanic	3,285	(33.7)	(31.9%–35.4%)
Black, non-Hispanic	2,112	(33.3)	(31.2%–35.1%)
Mexican American	2,250	(36.4)	(33.2%–39.1%)
Total	**7,933**	**(33.3)**	**(31.5%–34.8%)**
Women¶			
White, non-Hispanic	3,755	(33.5)	(31.3%–35.5%)
Black, non-Hispanic	2,490	(52.3)	(48.9%–55.2%)
Mexican American	2,128	(50.1)	(47.6%–52.3%)
Total	**8,748**	**(36.4)**	**(34.5%–38.0%)**
Total**	**16,681**	**(34.9)**	**(33.6%–36.1%)**

*Overweight is defined as body mass index (kg/m^2) ≥27.8 for men and ≥27.3 for women (85th percentiles from NHANES II for ages 20–29 years). The prevalence of overweight among persons aged 18–19 years, using these criteria, is 15.3% for males and 19.2% for females.
†Numbers for other racial/ethnic groups were too small for meaningful analysis.
§Confidence interval.
¶Excludes pregnant women.
**Total estimates include racial/ethnic groups not shown.

Prevalence of Overweight — Continued

prevalence estimates than NHANES III, Phase 1, suggesting that the prevalence of overweight in the United States has continued to increase. Although estimates are subject to sampling variability, increases occurred in all sex and racial/ethnic subgroups among adults and, with one exception, among children and adolescents. For example, among adults, overweight prevalence increased 3.3 percentage points for men and 3.6 percentage points for women between Phase 1 and Phase 2 of NHANES III. The increasing trend in the prevalence of overweight is consistent with findings from CDC's Behavioral Risk Factor Surveillance System (BRFSS), which indicate that, during 1987–1993, the age-adjusted prevalence of overweight based on self-report increased by 0.9% per year for adults (*7*). These findings underscore the sustained increase in prevalence of overweight by a different methodology.

The increase in the prevalence of overweight is a result of a positive shift in energy balance in which energy intake from food exceeds energy expenditure in physical activity. Median energy intake for adults increased from NHANES II (1976–1980) to NHANES III (1988–1994), and in most population subgroups, from Phase 1 to Phase 2 of NHANES III (CDC, unpublished data, 1997). Nationally representative data for physical activity among children and adolescents have not been collected with comparable methods across surveys through the 1980s and 1990s. However, for adults, data from the National Health Interview Survey (NHIS) and the BRFSS document stable or constant levels of participation in leisure-time physical activity among adults from the mid-1980s through the early 1990s (*8*). Changes that result in decreased energy expenditures may have occurred in other types of physical activity, including transportation patterns, household work, and time spent in inactivity (e.g., watching television and playing electronic games). Results from Phase 1 of NHANES III also documented a high prevalence of inactivity in the United States and that rates of inactivity were greater for women than men and for non-Hispanic blacks and Mexican Americans than non-Hispanic whites (*9*).

Overweight is an important nutrition-related condition in the United States. Because most methods for achieving weight loss are unsuccessful over time (*10*), prevention continues to be the most viable option for controlling overweight. Reversing the trend in overweight will require changes in individual behavior and the elimination of societal barriers to healthy choices.

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Prevalence of Overweight — Continued

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Methemoglobinemia Attributable to Nitrite Contamination of Potable Water Through Boiler Fluid Additives — New Jersey, 1992 and 1996

Nitrite and nitrate ions are naturally occurring forms of nitrogen that can be present in ground and surface water and can be used as a food preservative because they inhibit the growth of *Clostridium botulinum* (*1*). Exposure to excessive levels of nitrite or nitrate may result in the acute syndrome of methemoglobinemia (MetHb), in which nitrite binds to hemoglobin. This report summarizes the findings of investigations of two incidents in which unintentional exposure to high doses of nitrite occurred through drinking potable water contaminated with additives to boiler conditioning fluids.

Incident 1

On October 20, 1992, a school nurse contacted the New Jersey Poison Information and Education System regarding the acute onset of illnesses in 49 children in first through fourth grades in one school (*2*). All of the children had visited the school nurse within 45 minutes after lunch because of blueness of the lips and fingers. The poison center, after ruling out a possible local stain, suggested that the children be examined at a hospital. When the children were examined, additional complaints included nausea, vomiting, and headache. An emergency department physician, in consultation with the poison center, made the presumptive diagnosis of MetHb on the basis of cyanosis with normal pulse oximetry readings of oxygen saturation >88%. Initial questioning by the poison center did not identify possible sources.

MetHb was diagnosed in 29 (59%) of the 49 students, and in 14, levels were >20% (range: 3%–47%; normal: <2% [*3*]). Manifestations among the 49 children included cyanosis (79%), nausea (69%), abdominal pain (68%), vomiting (66%), and dizziness (52%). All 14 of the children who were hospitalized were treated with supplemental oxygen and intravenous methylene blue. All patients recovered fully within 36 hours with no complications.

The field investigation indicated that the children with MetHb had eaten soup served during the second lunch period. The soup had been prepared from a commercially canned product that was taken directly from the can and heated before being served. To provide second servings, the soup was diluted with a 1:1 ratio of water obtained from hot and cold water taps in the school kitchen. Analysis of the leftover diluted soup detected nitrite levels of 459 parts per million (ppm). Samples of the original undiluted soup contained a nitrite level of 2 ppm.

Boiler Fluid Additives — Continued

Analysis of water from the hot water taps in the kitchen detected a nitrite level of 4 ppm to 10 ppm; samples from the cold water tap were negative for detectable nitrite. The hot water boiler had been serviced in May 1992 with commercial conditioner fluid containing nitrite and sodium metaborate, and had not been started until the morning of the incident in October. Boiler treatment solution had been added to the boiler during routine boiler conditioning approximately 2 weeks before the incident. Sodium metaborate levels were measured in the soup, and traces were found in the leftover diluted soup but not in the undiluted soup. During the investigation of the outbreak, the backflow check valve (which prevents backflow of water from the boiler to the potable water system) was tested and determined to be faulty and stuck in the open position. A section of the boiler also was used as a tankless water heater. In addition, the hot water coil tap and the tap for boiler treatment solution were in the same location, and neither tap was labeled. The school's water system was flushed; water from all taps was retested and was negative for nitrite and sodium metaborate. As a result of this incident, the school discontinued heating of water through the boiler coils and removed the hot water coil tap.

Incident 2

On March 23, 1996, the poison center was contacted by an office worker regarding the acute onset of blueness of skin in six of her office coworkers who had been meeting in a conference room. The poison center suggested that the workers be examined at a hospital. The presumptive diagnosis by the emergency department clinician in consultation with the poison center was MetHb; initial questioning by the poison center did not identify any methemoglobin inducers.

Four of the six workers were evaluated by physicians; MetHb was diagnosed based on analysis of blood samples (range of methemoglobin levels: 6%–16%). Two patients were treated with supplemental oxygen and intravenous methylene blue, and all recovered without complications within 24 hours.

All six workers had onset of illness after drinking coffee prepared with water from a nearby hot water faucet. Analysis of the leftover coffee detected a nitrite level of 300 ppm. Nitrate levels were >50 ppm in samples of hot water obtained from several sites in the building, including the tap where the water was obtained to prepare the coffee. All samples of cold water contained negligible amounts of nitrate (<0.1 ppm). During the subsequent field investigation of this outbreak, the backflow prevention valve was removed from the boiler in the building, determined to be defective, and replaced. Conditioning fluid in the boiler contained both nitrites and sodium borate. Traces of sodium borate were found in the coffee.

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Editorial Note: Methemoglobinemia may result when hemoglobin is exposed to oxidizing agents such as nitrite or nitrate. These compounds cause the iron in the hemoglobin to be oxidized ($Fe^{2+} \rightarrow Fe^{3+}$), producing methemoglobin and a reduction in oxygen-carrying capacity (*1*). Manifestations of MetHb may include cyanosis,

Boiler Fluid Additives — Continued

headache, nausea, vomiting, and dizziness; the syndrome usually is not fatal. Nitrates and nitrites are strong oxidizing agents and are established causes of this syndrome (*4*); amino- and nitro-aromatic compounds are 10 times more potent than sodium nitrite in oxidizing hemoglobin (*5*). An analysis of data from CDC's National Hospital Discharge Survey indicated that, during 1985–1990, only 18 cases of MetHb were recorded (CDC, unpublished data, 1997); in addition, data from CDC's Compressed Mortality File confirm the low case-fatality rate (cumulative incidence rate was 0.01 MetHb deaths per million population during 1979–1994). Based on data from the American Association of Poison Control Centers Toxic Exposure Surveillance System (*6*), during 1995 there were 970 cases of MetHb but no associated deaths; however, cases were not verified by laboratory analysis.

The two episodes described in this report resulted from ingestion of water originating from potable municipal sources but that had become cross-contaminated with boiler fluid because of defective backflow valves. This potential mechanism for nitrite exposure has not been widely recognized. The boiler fluids probably refluxed when the boilers were started, thereby generating high pressure and fluid reflux into the buildings' water systems. Although most municipalities have regulations requiring backflow valves on boilers to prevent such incidents in large buildings (*7*), there are no provisions for routine inspection and replacement of these valves. Building managers and personnel who service boilers should be informed about the potential problem and the need to turn off boilers during servicing to ensure a reverse pressure gradient is not produced. In addition, backflow valves should be inspected routinely to ensure proper operation, and conditioner fluid containers should include warning labels with specific instructions for replacing fluid and for proper operation of the safety valve backflow mechanism.

These two incidents underscore the need for health-care workers to consider this potential source of exposure in the differential diagnosis of MetHb. Other compounds with potential for inducing MetHb include organic nitrates (e.g., room deodorizer propellents and certain pharmaceutical agents), laundry ink, industrial solvents, some local anesthetics (benzocaine and lidocaine), sulfonamides, mothballs, and fungicides.

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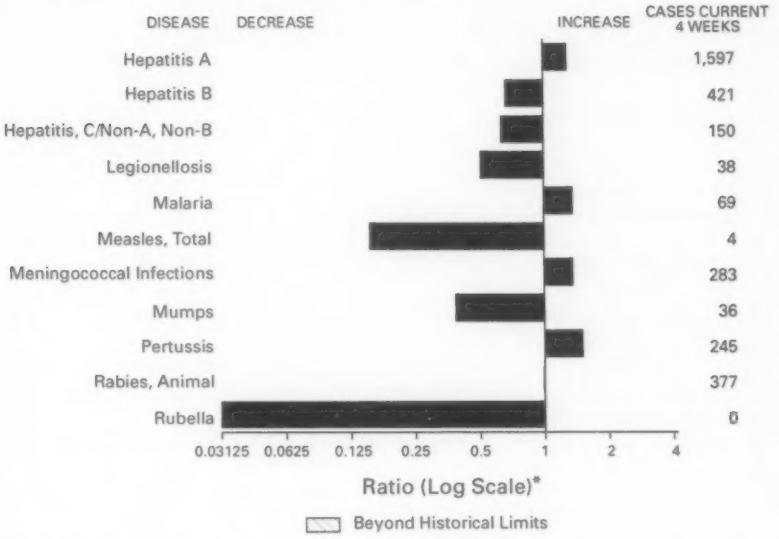
FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending March 1, 1997, with historical data — United States



*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending March 1, 1997 (9th Week)

	Cum. 1997		Cum. 1997
Anthrax	-	Plague	-
Brucellosis	4	Poliomyelitis, paralytic	-
Cholera	-	Psittacosis	3
Congenital rubella syndrome	1	Rabies, human	-
Cryptosporidiosis*	148	Rocky Mountain spotted fever (RMSF)	9
Diphtheria	-	Streptococcal disease, invasive Group A	118
Encephalitis: California*	-	Streptococcal toxic-shock syndrome*	5
eastern equine*	-	Syphilis, congenital[§]	-
St. Louis*	-	Tetanus	3
western equine*	-	Toxic-shock syndrome	16
Hansen Disease	10	Trichinosis	2
Hantavirus pulmonary syndrome*[†]	-	Typhoid fever	40
Hemolytic uremic syndrome, post-diarrheal*	9	Yellow fever	-
HIV infection, pediatric*[¶]	19		

-:no reported cases
*Not notifiable in all states.
[†]Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
[§]Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update January 28, 1997.
[¶]Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending March 1, 1997, and March 2, 1996 (9th Week)

Reporting Area	AIDS*		Chlamydia		*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB	
					NETSS†	PHLIS§				
	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1997	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996
UNITED STATES	5,109	9,988	46,822	58,934	139	56	33,777	53,260	374	483
NEW ENGLAND	134	446	2,306	3,173	14	6	852	1,238	1	12
Maine	13	8	49	-	1	-	3	5	-	-
N.H.	1	14	89	101	-	-	31	24	-	1
Vt.	7	5	64	88	1	1	9	15	-	7
Mass.	62	246	1,223	1,136	10	5	410	442	1	4
R.I.	19	17	361	406	1	-	102	103	-	-
Conn.	32	156	520	1,442	1	-	297	649	-	-
MID. ATLANTIC	1,921	2,864	3,426	4,312	8	-	2,130	4,597	32	33
Upstate N.Y.	113	324	N	N	5	-	189	5	23	28
N.Y. City	1,039	1,621	-	3,060	1	-	-	2,126	-	1
N.J.	468	550	915	1,252	2	-	637	617	-	-
Pa.	301	369	2,511	-	N	-	1,304	1,849	9	4
E.N. CENTRAL	242	821	8,569	15,412	21	11	5,811	10,365	88	76
Ohio	57	249	1,959	3,605	12	7	1,424	2,514	5	2
Ind.	25	90	1,288	1,555	2	-	991	1,217	1	2
Ill.	115	321	1,880	4,540	-	-	935	3,095	-	14
Mich.	29	106	2,501	3,745	7	2	1,974	2,644	82	58
Wis.	16	55	941	1,967	N	2	487	895	-	-
W.N. CENTRAL	127	247	3,181	4,902	22	12	1,570	2,251	16	12
Minn.	17	56	-	999	10	7	U	-	-	-
Iowa	38	22	746	183	7	2	182	86	8	3
Mo.	54	90	1,437	2,009	1	-	1,048	1,577	2	7
N. Dak.	2	-	81	156	3	2	5	7	1	-
S. Dak.	-	3	178	184	-	-	24	25	-	-
Nebr.	15	22	163	527	1	-	60	98	-	2
Kans.	1	54	576	844	-	1	251	458	5	-
S. ATLANTIC	1,239	2,454	12,140	8,258	14	2	13,905	18,961	41	22
Del.	20	72	-	-	1	1	190	280	-	-
Md.	166	196	786	880	-	-	1,834	2,366	4	-
D.C.	55	126	N	N	-	-	836	753	-	-
Va.	130	126	1,994	1,860	N	-	1,633	1,651	3	1
W. Va.	14	19	-	-	N	-	114	99	1	4
N.C.	59	34	3,035	U	2	1	2,729	3,633	11	7
S.C.	104	91	1,584	U	-	-	2,047	2,189	11	1
Ga.	183	447	1,186	1,839	4	-	1,825	4,765	U	-
Fla.	508	1,343	3,555	3,679	7	-	2,697	3,225	11	9
E.S. CENTRAL	134	358	4,046	4,726	13	3	4,027	5,389	45	87
Ky.	23	67	1,070	1,227	4	-	678	729	1	4
Tenn.	59	140	1,902	2,006	8	3	1,706	1,898	20	83
Ala.	37	89	1,074	1,440	-	-	1,643	2,332	3	-
Miss.	15	62	-	53	1	-	-	430	21	-
W.S. CENTRAL	420	944	2,144	3,854	3	1	2,246	4,777	38	44
Ark.	18	45	188	281	2	-	382	761	1	1
La.	64	221	1,016	-	1	1	1,105	1,481	28	8
Okla.	32	26	940	1,140	-	-	759	707	-	25
Tex.	306	652	-	2,433	-	-	-	1,828	9	10
MOUNTAIN	122	251	3,332	1,784	20	14	1,225	1,378	61	123
Mont.	7	3	95	-	-	-	7	3	3	4
Idaho	2	4	249	229	1	-	19	12	12	30
Wyo.	1	-	73	120	-	-	7	8	18	34
Colo.	24	85	50	3	12	5	247	347	13	13
N. Mex.	5	20	675	649	3	1	269	169	7	23
Ariz.	30	94	1,571	66	N	6	531	656	5	14
Utah	10	39	225	262	1	-	28	49	1	4
Nev.	43	6	394	455	3	2	117	134	2	1
PACIFIC	770	1,603	7,678	12,513	24	5	2,011	4,304	52	74
Wash.	45	139	1,539	1,686	2	-	391	440	3	14
Oreg.	30	101	422	929	7	3	58	46	3	2
Calif.	682	1,338	5,268	9,536	15	2	1,399	3,646	12	27
Alaska	10	3	225	62	-	-	89	80	-	2
Hawaii	3	22	224	300	N	-	74	92	34	29
Guam	-	3	-	73	N	-	-	17	-	-
P.R.	144	248	N	N	4	U	127	28	2	6
V.I.	4	1	N	N	N	U	-	-	-	-
Amer. Samoa	-	-	-	-	N	U	-	-	-	-
C.N.M.I.	-	-	N	N	N	U	-	8	-	-

N: Not notifiable U: Unavailable -: no reported cases C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update January 28, 1997.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending March 1, 1997, and March 2, 1996 (9th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997
UNITED STATES	134	121	302	738	172	167	1,016	2,115	1,556	2,229	816
NEW ENGLAND	10	4	36	59	4	4	22	31	36	60	129
Maine	-	1	-	-	-	1	-	-	-	3	30
N.H.	2	-	1	-	-	-	-	-	2	2	3
Vt.	2	-	1	-	-	1	-	-	-	-	22
Mass.	3	1	23	4	3	2	12	14	15	19	21
R.I.	-	2	11	16	1	-	-	-	4	8	1
Conn.	3	N	-	39	-	-	10	17	15	28	52
MID. ATLANTIC	24	24	217	626	30	51	17	64	228	314	171
Upstate N.Y.	8	4	17	140	5	9	3	7	21	33	122
N.Y. City	-	1	1	201	17	25	-	23	104	146	-
N.J.	2	5	45	55	7	14	2	16	66	76	15
Pa.	14	14	154	230	1	3	12	18	37	59	34
E.N. CENTRAL	54	47	6	3	9	22	111	343	280	351	1
Ohio	32	16	6	1	1	3	42	142	63	53	-
Ind.	4	9	-	2	1	1	24	50	16	26	1
Ill.	-	4	-	-	-	8	16	89	171	233	-
Mich.	18	14	-	-	7	7	14	23	18	32	-
Wis.	-	4	U	U	-	3	15	39	12	7	-
W.N. CENTRAL	5	8	1	8	1	3	33	98	57	50	57
Minn.	-	-	-	-	-	-	-	16	18	12	10
Iowa	-	-	-	1	1	1	10	4	8	5	33
Mo.	2	3	-	1	-	1	14	69	20	18	6
N. Dak.	-	-	-	-	-	-	-	-	2	1	7
S. Dak.	-	1	-	-	-	-	-	-	1	5	-
Nebr.	3	4	1	-	-	-	-	4	-	-	-
Kans.	-	-	-	6	-	1	9	5	8	9	1
S. ATLANTIC	19	12	26	29	52	28	407	665	255	340	405
Del.	1	1	-	6	2	2	3	10	-	9	2
Md.	12	2	17	16	14	9	-	84	21	30	69
D.C.	1	1	4	-	3	1	25	20	13	11	1
Va.	-	2	-	-	9	5	48	87	16	25	80
W. Va.	-	1	-	2	-	-	-	1	7	12	8
N.C.	3	3	2	3	2	4	122	183	40	40	137
S.C.	-	1	1	-	3	-	79	80	34	53	16
Ga.	-	-	1	-	8	2	85	157	50	65	42
Fla.	2	1	1	2	11	5	45	43	74	95	50
E.S. CENTRAL	5	9	10	6	5	1	244	544	95	198	14
Ky.	-	3	1	3	1	1	26	32	25	34	7
Tenn.	2	4	2	3	1	-	141	151	9	50	-
Ala.	1	-	-	-	1	-	77	120	61	68	7
Miss.	2	2	7	-	2	-	-	241	-	46	-
W.S. CENTRAL	-	-	-	-	3	1	136	232	26	99	17
Ark.	-	-	-	-	1	-	16	58	20	15	4
La.	-	-	-	-	2	-	95	78	-	-	-
Okla.	-	-	-	-	-	-	25	22	6	21	13
Tex.	-	-	-	-	-	1	-	74	-	63	-
MOUNTAIN	10	8	-	-	11	11	27	29	52	83	2
Mont.	-	-	-	-	1	-	-	-	-	-	1
Idaho	-	-	-	-	-	-	-	1	-	1	-
Wyo.	-	-	-	-	1	1	-	1	1	-	-
Colo.	3	4	-	-	6	5	-	9	10	17	-
N. Mex.	-	-	-	-	-	1	-	-	2	6	-
Ariz.	3	1	-	-	-	1	22	15	23	46	1
Utah	3	-	-	-	-	2	1	-	1	-	-
Nev.	1	3	-	-	3	1	4	3	15	13	-
PACIFIC	7	9	6	7	57	46	19	109	527	734	20
Wash.	1	-	-	-	-	-	3	-	24	37	-
Oreg.	-	-	1	4	3	4	1	1	4	33	-
Calif.	5	9	5	3	54	39	15	107	452	621	19
Alaska	-	-	-	-	-	-	-	-	15	16	1
Hawaii	1	-	-	-	-	3	-	1	32	27	-
Guam	-	-	-	-	-	-	-	2	-	20	-
P.R.	-	-	-	-	1	-	42	23	-	-	8
V.I.	-	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-
C.N.M.I.	-	-	-	-	-	-	-	-	-	-	-

N: Not notifiable U: Unavailable -: no reported cases

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending March 1, 1997, and March 2, 1996 (9th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 1997*	Cum. 1996	Cum. 1997	Cum. 1996	Cum. 1997	Cum. 1996	1997	Cum. 1997	1997	Cum. 1997	Cum. 1997	Cum. 1996
UNITED STATES	181	204	3,788	4,403	1,042	1,364	2	5	-	3	8	28
NEW ENGLAND	7	7	70	37	19	21	-	-	-	-	-	5
Maine	2	-	3	5	1	-	-	-	-	-	-	-
N.H.	1	5	4	3	2	-	-	-	-	-	-	-
Vt.	-	-	4	-	1	1	-	-	-	-	-	1
Mass.	3	2	25	17	11	2	-	-	-	-	-	4
R.I.	1	-	3	2	2	1	-	-	-	-	-	-
Conn.	-	-	31	10	2	17	-	-	-	-	-	-
MID. ATLANTIC	21	27	242	336	148	252	1	1	-	-	1	3
Upstate N.Y.	1	3	14	44	20	42	1	1	-	-	1	1
N.Y. City	9	4	96	178	57	131	-	-	-	-	-	2
N.J.	9	12	67	64	28	45	-	-	-	-	-	-
Pa.	2	8	65	50	43	34	-	-	-	-	-	-
E.N. CENTRAL	24	34	273	454	117	182	-	-	-	1	1	-
Ohio	18	18	90	194	16	21	-	-	-	-	-	-
Ind.	4	1	32	70	9	15	-	-	-	-	-	-
Ill.	-	13	-	100	-	50	-	-	-	-	-	-
Mich.	2	-	128	53	91	73	-	-	-	1	1	-
Wis.	-	2	23	37	1	23	-	-	-	-	-	-
W.N. CENTRAL	4	7	266	344	54	79	-	-	-	-	-	-
Minn.	2	-	1	7	-	2	-	-	-	-	-	-
Iowa	1	3	37	87	28	9	-	-	-	-	-	-
Mo.	1	4	154	173	17	50	-	-	-	-	-	-
N. Dak.	-	-	2	4	-	-	-	-	-	-	-	-
S. Dak.	-	-	5	11	-	-	-	-	-	-	-	-
Nebr.	-	-	24	32	2	5	-	-	-	-	-	-
Kans.	-	-	43	30	7	13	-	-	-	-	-	-
S. ATLANTIC	46	36	286	132	134	187	-	-	-	-	-	1
Del.	-	-	7	3	1	-	-	-	-	-	-	-
Md.	12	13	76	38	31	56	-	-	-	-	-	-
D.C.	2	-	7	3	7	3	-	-	-	-	-	-
Va.	2	2	30	11	15	17	-	-	-	-	-	-
W. Va.	1	-	3	4	3	6	-	-	-	-	-	-
N.C.	7	5	45	21	26	57	-	-	-	-	-	-
S.C.	4	2	16	15	8	6	-	-	-	-	-	-
Ga.	3	13	28	-	6	-	-	-	-	-	-	-
Fla.	15	1	74	37	37	42	-	-	-	-	-	1
E.S. CENTRAL	10	8	102	328	107	116	-	-	-	-	-	-
Ky.	1	2	10	5	2	12	-	-	-	-	-	-
Tenn.	9	2	48	262	65	93	-	-	-	-	-	-
Ala.	-	3	25	29	14	11	-	-	-	-	-	-
Miss.	-	1	19	32	26	U	U	-	U	-	-	-
W.S. CENTRAL	6	7	541	625	57	68	1	1	-	-	1	-
Ark.	-	-	52	92	9	10	-	-	-	-	-	-
La.	-	-	21	10	6	6	-	-	-	-	-	-
Okla.	5	7	266	346	2	10	-	-	-	-	-	-
Tex.	1	-	202	177	40	42	1	1	-	-	1	-
MOUNTAIN	12	13	727	651	151	175	-	-	-	-	-	3
Mont.	-	-	20	11	-	-	U	-	U	-	-	-
Idaho	-	1	33	82	4	21	-	-	-	-	-	-
Wyo.	-	-	3	5	7	5	U	-	U	-	-	-
Colo.	1	1	89	51	33	29	-	-	-	-	-	-
N. Mex.	1	5	53	100	53	70	-	-	-	-	-	-
Ariz.	4	4	312	179	29	17	-	-	-	-	-	-
Utah	1	2	169	170	16	25	-	-	-	-	-	-
Nev.	5	-	48	53	9	8	-	-	-	-	-	3
PACIFIC	51	65	1,281	1,496	255	284	-	3	-	2	5	16
Wash.	-	-	80	94	8	15	-	-	-	-	-	4
Oreg.	7	7	79	221	32	22	-	-	-	-	-	-
Calif.	42	56	1,085	1,150	207	245	-	-	-	2	2	1
Alaska	-	-	5	11	4	1	-	-	-	-	-	10
Hawaii	2	2	32	20	4	1	-	3	-	-	3	1
Guam	-	-	-	2	-	-	U	-	U	-	-	-
P.R.	-	-	25	11	69	18	-	-	-	-	-	-
V.I.	-	-	-	-	-	-	U	-	U	-	-	-
Amer. Samoa	-	-	-	-	-	-	U	-	U	-	-	-
C.N.M.I.	-	18	-	1	-	3	U	-	U	-	-	-

N: Not notifiable U: Unavailable -: no reported cases

*Of 35 cases among children aged <5 years, serotype was reported for 9 and of those, 6 were type b.

†For imported measles, cases include only those resulting from importation from other countries.

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending March 1, 1997, and March 2, 1996 (9th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996	1997	Cum. 1997	Cum. 1996
UNITED STATES	639	704	8	65	100	67	682	372	-	1	31
NEW ENGLAND	39	31	-	1	-	5	190	103	-	-	-
Maine	4	6	-	-	-	-	4	2	-	-	-
N.H.	3	1	-	-	-	2	31	6	-	-	-
Vt.	2	1	-	-	-	2	76	6	-	-	-
Mass.	24	7	-	-	-	1	72	89	-	-	-
R.I.	1	5	-	1	-	-	7	-	-	-	-
Conn.	5	11	-	-	-	-	-	-	-	-	-
MID. ATLANTIC	47	59	1	5	14	4	32	38	-	1	4
Upstate N.Y.	9	11	-	-	5	1	15	25	-	-	2
N.Y. City	11	10	-	-	2	-	5	8	-	1	1
N.J.	11	13	-	-	2	-	-	3	-	-	1
Pa.	16	25	1	5	5	3	12	2	-	-	-
E.N. CENTRAL	59	94	-	10	27	5	68	72	-	-	1
Ohio	39	39	-	3	13	3	40	35	-	-	-
Ind.	10	9	-	4	4	2	4	3	-	-	-
Ill.	-	28	-	1	5	-	3	6	-	-	1
Mich.	5	6	-	2	5	-	17	7	-	-	-
Wis.	5	12	-	-	-	-	4	21	-	-	-
W.N. CENTRAL	52	67	-	3	2	-	31	6	-	-	-
Minn.	2	3	-	1	-	-	18	1	-	-	-
Iowa	13	11	-	2	-	-	9	1	-	-	-
Mo.	22	33	-	-	-	-	-	3	-	-	-
N. Dak.	-	1	-	-	2	-	1	-	-	-	-
S. Dak.	3	2	-	-	-	-	1	-	-	-	-
Nebr.	3	8	-	-	-	-	2	1	-	-	-
Kans.	9	9	-	-	-	-	-	-	-	-	-
S. ATLANTIC	138	98	6	15	14	8	61	23	-	-	-
Del.	3	1	-	-	-	-	-	-	-	-	-
Md.	10	12	-	-	7	-	26	18	-	-	-
D.C.	1	2	-	-	-	-	2	-	-	-	-
Va.	8	11	-	1	2	3	7	-	-	-	-
W. Va.	1	4	-	-	-	-	3	-	-	-	-
N.C.	28	16	3	4	-	1	12	-	-	-	-
S.C.	29	16	-	1	3	-	2	-	-	-	-
Ga.	21	28	2	2	1	3	3	1	-	-	-
Fla.	37	8	1	7	1	1	6	4	-	-	-
E.S. CENTRAL	53	56	-	6	4	-	16	11	-	-	-
Ky.	9	8	-	-	-	-	1	6	-	-	-
Tenn.	22	15	-	2	1	-	5	3	-	-	-
Ala.	17	18	-	2	3	-	6	1	-	-	-
Miss.	5	15	U	2	-	U	4	1	U	-	N
W.S. CENTRAL	49	76	-	4	3	1	6	5	-	-	-
Ark.	9	8	-	-	-	-	3	2	-	-	-
La.	12	16	-	-	3	-	1	1	-	-	-
Okla.	7	4	-	-	-	-	-	1	-	-	-
Tex.	21	48	-	4	-	1	2	1	-	-	-
MOUNTAIN	38	47	-	2	4	5	139	41	-	-	-
Mont.	2	1	U	-	-	U	-	2	U	-	-
Idaho	3	6	-	-	-	2	86	8	-	-	-
Wyo.	-	3	U	-	-	U	3	-	U	-	-
Colo.	4	4	-	1	-	3	39	-	-	-	-
N. Mex.	9	11	N	N	N	-	7	13	-	-	-
Ariz.	12	14	-	-	-	-	4	3	-	-	-
Utah	6	3	-	1	-	-	-	1	-	-	-
Nev.	2	5	-	-	4	-	-	14	-	-	-
PACIFIC	164	176	1	19	32	39	139	73	-	-	26
Wash.	17	15	-	3	2	11	35	10	-	-	1
Oreg.	41	31	-	-	-	-	3	17	-	-	-
Calif.	105	126	1	12	23	28	98	42	-	-	24
Alaska	-	2	-	-	1	-	1	-	-	-	-
Hawaii	1	2	-	4	6	-	2	4	-	-	1
Guam	-	1	U	-	1	U	-	-	U	-	-
P.R.	2	-	-	-	-	-	-	-	-	-	-
V.I.	-	-	U	-	-	U	-	-	U	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	-	-	U	-	-	U	-	-

N: Not notifiable U: Unavailable -: no reported cases

TABLE IV. Deaths in 122 U.S. cities,* week ending March 1, 1997 (9th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	558	398	96	32	14	18	44
Boston, Mass.	140	95	25	10	7	3	16
Bridgeport, Conn.	31	21	8	1	1	-	5
Cambridge, Mass.	11	7	4	-	-	-	-
Fall River, Mass.	33	27	5	1	-	-	-
Hartford, Conn.	47	30	6	6	-	5	-
Lowell, Mass.	28	22	2	4	-	-	3
Lynn, Mass.	8	6	1	1	-	-	2
New Bedford, Mass.	28	23	5	-	-	-	-
New Haven, Conn.	48	32	11	-	1	4	2
Providence, R.I.	67	41	17	4	-	5	4
Somerville, Mass.	2	1	-	1	-	-	-
Springfield, Mass.	38	32	5	1	-	-	2
Waterbury, Conn.	19	13	2	1	2	1	3
Worcester, Mass.	58	48	5	2	3	-	7
MID. ATLANTIC	2,499	1,729	464	205	57	43	136
Albany, N.Y.	48	37	4	1	4	2	4
Allentown, Pa.	29	22	6	-	1	-	-
Buffalo, N.Y.	58	44	10	3	1	-	3
Camden, N.J.	29	20	5	4	-	-	2
Elizabeth, N.J.	17	11	2	4	-	-	-
Erie, Pa.	42	32	7	2	1	-	1
Jersey City, N.J.	49	32	11	5	1	-	1
New York City, N.Y.	1,260	861	237	111	22	29	48
Newark, N.J.	58	26	13	14	3	2	2
Paterson, N.J.	44	30	9	4	1	-	-
Philadelphia, Pa.	403	266	83	36	13	4	29
Pittsburgh, Pa.§	62	44	11	2	3	2	6
Reading, Pa.	15	13	1	-	1	-	2
Rochester, N.Y.	125	96	19	8	1	1	12
Schenectady, N.Y.	40	27	8	4	-	1	4
Scranton, Pa.	43	37	4	-	1	1	4
Syracuse, N.Y.	120	88	24	4	3	1	14
Trenton, N.J.	27	19	6	2	-	-	3
Utica, N.Y.	30	24	4	1	1	-	1
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,208	1,473	425	161	55	92	152
Akron, Ohio	54	41	11	1	-	1	-
Canton, Ohio	26	22	2	1	-	1	4
Chicago, Ill.	522	302	103	49	15	51	44
Cincinnati, Ohio	125	89	26	4	2	4	11
Cleveland, Ohio	175	112	45	12	3	3	7
Columbus, Ohio	195	127	31	22	10	5	20
Dayton, Ohio	106	82	17	6	-	1	5
Detroit, Mich.	167	99	46	15	4	3	7
Evansville, Ind.	36	24	5	4	2	1	-
Fort Wayne, Ind.	59	40	10	4	2	3	3
Gary, Ind.	10	5	5	-	-	-	1
Grand Rapids, Mich.	71	51	13	3	3	1	5
Indianapolis, Ind.	200	129	40	16	5	10	10
Lansing, Mich.	32	21	7	2	2	-	3
Milwaukee, Wis.	123	96	16	7	2	2	13
Peoria, Ill.	41	31	7	2	-	1	2
Rockford, Ill.	45	34	6	4	1	-	1
South Bend, Ind.	63	48	12	1	2	-	6
Toledo, Ohio	86	65	14	5	1	1	6
Youngstown, Ohio	72	55	9	3	1	4	4
W.N. CENTRAL	705	500	126	34	19	21	44
Des Moines, Iowa	38	31	5	1	1	-	5
Duluth, Minn.	31	22	8	1	-	-	4
Kansas City, Kans.	32	18	7	4	2	1	-
Kansas City, Mo.	100	61	20	3	6	5	6
Lincoln, Nebr.	28	18	7	3	-	-	2
Minneapolis, Minn.	167	122	20	11	4	10	14
Omaha, Nebr.	83	56	20	4	1	2	9
St. Louis, Mo.	116	87	17	6	3	3	-
St. Paul, Minn.	55	45	8	1	1	-	3
Wichita, Kans.	55	40	14	-	1	-	1
S. ATLANTIC	1,415	913	289	135	59	19	85
Atlanta, Ga.	186	104	45	24	6	7	7
Baltimore, Md.	194	128	31	24	10	1	19
Charlotte, N.C.	24	14	7	2	1	-	2
Jacksonville, Fla.	132	94	26	8	2	2	1
Miami, Fla.	109	75	24	9	1	-	1
Norfolk, Va.	58	42	7	1	3	5	6
Richmond, Va.	73	54	12	4	3	-	5
Savannah, Ga.	40	29	7	2	2	-	8
St. Petersburg, Fla.	66	55	6	1	3	1	11
Tampa, Fla.	202	148	33	15	5	1	16
Washington, D.C.	320	165	86	45	22	2	9
Wilmington, Del.	11	5	5	-	1	-	-
E.S. CENTRAL	784	548	152	58	19	7	67
Birmingham, Ala.	4	2	1	-	1	-	-
Chattanooga, Tenn.	58	35	15	6	1	1	4
Knoxville, Tenn.	81	62	16	1	1	1	15
Lexington, Ky.	99	57	27	11	3	1	7
Memphis, Tenn.	236	169	35	24	6	2	23
Mobile, Ala.	101	67	23	7	4	-	2
Montgomery, Ala.	44	36	5	2	-	1	1
Nashville, Tenn.	161	120	30	7	3	1	15
W.S. CENTRAL	1,726	1,117	376	149	41	41	136
Austin, Tex.	101	69	26	5	1	-	3
Baton Rouge, La.	59	32	15	7	2	3	4
Corpus Christi, Tex.	41	27	10	2	2	-	-
Dallas, Tex.	249	152	59	22	10	6	9
El Paso, Tex.	82	54	15	9	3	1	4
Ft. Worth, Tex.	159	117	22	12	4	4	14
Houston, Tex.	429	261	107	42	8	10	56
Little Rock, Ark.	93	58	18	7	3	7	6
New Orleans, La.	107	70	21	13	1	2	-
San Antonio, Tex.	223	145	47	20	4	6	20
Shreveport, La.	49	33	11	4	1	-	4
Tulsa, Okla.	134	99	25	6	2	2	16
MOUNTAIN	1,088	753	198	77	33	27	106
Albuquerque, N.M.	108	69	21	12	4	2	4
Boise, Idaho	30	23	3	1	2	1	2
Colo. Springs, Colo.	79	55	15	7	1	1	10
Denver, Colo.	106	71	16	8	6	5	9
Las Vegas, Nev.	243	161	54	22	2	4	16
Ogden, Utah	20	16	2	-	2	-	-
Phoenix, Ariz.	206	147	29	18	4	8	30
Pueblo, Colo.	25	23	2	-	-	-	2
Salt Lake City, Utah	124	79	27	7	7	4	13
Tucson, Ariz.	147	109	29	2	5	2	20
PACIFIC	2,006	1,426	336	150	45	48	194
Berkeley, Calif.	25	16	5	3	-	1	-
Fresno, Calif.	128	89	23	10	1	4	8
Glendale, Calif.	20	19	1	-	-	-	3
Honolulu, Hawaii	74	59	10	-	3	2	11
Long Beach, Calif.	110	74	20	13	3	-	18
Los Angeles, Calif.	505	349	87	39	15	15	26
Pasadena, Calif.	40	33	4	3	-	-	3
Portland, Oreg.	154	115	19	13	2	5	14
Sacramento, Calif.	173	115	36	15	5	2	25
San Diego, Calif.	165	114	31	8	5	7	28
San Francisco, Calif.	143	99	31	12	-	1	22
San Jose, Calif.	149	109	25	10	2	3	20
Santa Cruz, Calif.	21	20	-	-	1	-	4
Seattle, Wash.	158	104	25	20	6	3	1
Spokane, Wash.	62	47	9	1	2	3	6
Tacoma, Wash.	79	64	10	3	-	2	5
TOTAL	12,989¶	8,857	2,462	1,001	342	316	964

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

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